FACT SHEET FOR
NPDES PERMIT NO. WA-005152-7

TREE TOP, INC.
Wenatchee Processing Plant

GENERAL INFORMATION	
Applicant:	Tree Top, Inc. 220 E. Second Street P.O. Box 248 Selah, WA 98942-0248
Facility Name and Address:	Tree Top, Inc. 3981 Chelan Highway P.O. Box 1300 Wenatchee, WA 98801
Contact Person:	Terry Morgan, Plant Manager (509) 663-8583
Type of Facility:	Fruit processing plant: frozen and dehydrated apple products.
SIC Code:	2037 (Frozen Fruit) and 2034 (Dehydrated Fruit)
Outfall #001 Location (Process Wastewater):	Waterbody Name: Columbia River River Mile: 470.8 Latitude: 47° 29' 36" N. Longitude: 120° 18' 36" W.
Water Body ID Number:	WA-CR-1040

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) of permits, which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington (State) on the basis of Chapter 90.48 RCW which defines the Department of Ecology's (Department's) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the State is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the proposed permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft (proposed) permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the draft permit is issued (WAC 173-220-050). This fact sheet and draft permit are available for review (see **Appendix A -- Public Involvement** of this fact sheet for more detail on the Public Notice procedures).

This fact sheet and draft permit have been reviewed by the applicant (Tree Top, Inc.). Errors and omissions identified in the review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the proposed permit and parties submitting comments will receive a copy of the Department's response. This fact sheet will not be revised. Comments and the resultant changes to the proposed permit will be summarized in **Appendix C -- Response to Comments**.

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

History

The activated sludge wastewater treatment facilities were constructed in 1977 to replace an existing industrial waste drainfield. The facilities included: two equalization basins, a wet well, pumps, two aeration basins and two clarifiers. The upgraded system discharged treated effluent into a new drainfield.

In 1980, an aerated lagoon was constructed to operate in conjunction with the activated sludge plant. This lagoon added capacity and operational flexibility to the waste treatment system.

In 1981, an outfall/diffuser was constructed to convey treated effluent to the Columbia River thereby eliminating the need for the drainfield system.

In 1986, a solids handling building was constructed to house a belt filter press and polymer addition system for sludge dewatering.

In 1989, asphalt drying beds were constructed to dry the dewatered sludge produced by the belt filter press prior to hauling to the disposal sites.

In 1994, the wastewater treatment plant laboratory was remodeled to fulfill the requirements of the Department. Additionally, three other capital improvement projects were completed to further improve the wastewater treatment facilities:

1. The pretreatment facilities at the main processing plant were modified with the addition of chopper-pumps in the wastewater sump;

2. The installation of mixers in each basin at the treatment plant to facilitate winter operation of basins without settling and odor problems; and

3. The replacement of two existing cleanouts and the addition of a third on the sludge return flow line between the lagoon and the treatment plant to alleviate slow sludge return flow and line cleaning problems.

In 1995, a stormwater interceptor and pumping station were constructed to convey plant roof and receiving yard runoff to the treatment lagoon for treatment and discharge.

Industrial Processes

Raw apples are received at the processing plant and immediately dumped and washed to remove leaves, stems and other debris. The fruit is sorted and the smaller apples sent to the Tree Top, Inc. facility in the City of Cashmere for processing into fruit juice concentrate. The larger apples which remain at the Wenatchee facility are then peeled and cored, sliced or sliced/diced, frozen

or treated with sulfite and subsequently dehydrated. The dehydrated apples are either left as is or ground up further into smaller particles for specialty markets.

The facility operates year-round with each year's new crop typically arriving in mid-August. At the height of the season, September through April, the processing plant operates 7 days per week with 3 shifts (24 hours per day) and a total of 110 employees. The plant is normally shut-down for a two-week period in late December and early January.

Wastewater Treatment Processes

Pretreatment Facilities

Process wastewater inside the processing plant is collected into a large sump located inside the building near the east side of the plant. From here the wastewater is pumped through a rotary screen, where solids are removed and hauled away as cattle feed. Effluent from the screening process flows by gravity through a metering flume into the aerated lagoon for further pretreatment.

The 8-million gallon aerated lagoon, located east of the processing plant, is a concrete-lined basin fitted with submerged static tube aerators fed by a 16-inch diameter header supplied by three 200-HP centrifugal blowers. The lagoon provides long-term (winter) and emergency storage, hydraulic/organic equalization/ and biological treatment. The average detention time of 30 days is designed to reduce the BOD load to the activated sludge treatment plant, and to allow a uniform flow to be processed, even though the influent to the lagoon is extremely variable in strength and scheduling.

A lagoon pump station is located at the north end of the aerated lagoon. Mixed liquor from the aerated lagoon is pumped by two 15-HP submersible pumps to the activated sludge wastewater treatment plant located approximately ¼-mile north of the pretreatment facilities.

Wastewater Treatment Plant

Tree Top, Inc. process wastewater treatment plant is composed of an aerated lagoon followed by a final activated sludge treatment process. Aerated lagoon effluent is pumped into two 150,000-gallon concrete-lined equalization basins, where it is allowed to collect and mix. The purpose of these basins is to eliminate the flow surges caused by the cycling of the lagoon pump station, as well as to even out the wastewater plant's organic loadings (buffering capacity).

A wet well is located at the southwest end of the equalization basins and receives flow from them. Wastewater from the wet well is pumped directly into the two 150,000-gallon activated sludge aeration basins, as well as return activated sludge (RAS) flow from the bottom of the clarifier. The basins fitted with mixers and aerators, like the lagoon, provide a biological contact process for reducing the organic loading (BOD) of the wastewater through aerobic decomposition. From the basins, the wastewater enters the clarifiers for final separation of solids. Solids are dewatered by a belt filter press, dried in sludge drying beds and land applied.

The two 22,400-gallon rectangular clarifiers are located just north of the operations building. In the clarifiers suspended material in the wastewater is allowed to precipitate out and settle to the bottom. Effluent from the clarifiers flows over the weirs and into the clarifier effluent diversion box. Treated effluent is normally discharged to the Columbia River through an outfall/diffuser. Alternatively, the final effluent can be diverted back into the aerated lagoon for further treatment.

There is no electrical generator on-site to provide for proper operation of the wastewater treatment facilities during failure of the electricity supply. The Department requires Tree Top, Inc., in the proposed permit, to "at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed and/or utilized by the Permittee to achieve compliance with the terms and conditions of this permit". The lack of an alternate electrical source to run the lagoon aerators and the activated sludge processes may be a violation of this requirement. Therefore, the proposed permit requires the submittal of an **Emergency Electrical Generator Plan** that shall evaluate the need for an emergency generator and any other alternatives which may satisfy the requirement.

Discharge Outfalls

Tree Top, Inc. has two outfalls, one for process wastewater and one for stormwater. The process wastewater effluent discharges through Outfall #001, while stormwater discharges through Outfall #002. The proposed permit will deal only with Outfall #001, as the stormwater discharges are permitted by General Stormwater Permit #S03-000384, which was issued to Tree Top, Inc. on December 18, 1995.

Outfall #001 was installed in September 1981 and is composed of an 8-inch diameter HDPE pipe with weighted concrete collars, which extends out into the Columbia River approximately 100 feet from shore and is under 30 feet of water at 7Q10 low-flow. The end diffuser is 20-ft. long and was last inspected on August 23, 1995. At that time, it was found to be in "like-new" condition with no debris around the diffuser orifices.

PERMIT STATUS

The previous permit for this facility was issued on April 21, 1995 and placed effluent limitations on BOD_5, TSS and pH. An application for permit renewal was received by the Department on August 2, 1999 and accepted on August 3, 1999.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on May 12, 1999, which found the facility clean and well-operated with a staff of two very knowledgeable persons. During the history of the previous permit, Tree Top, Inc. has remained in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

Influent

The process wastewater influent, after pretreatment, to the Tree Top, Inc. aerated pretreatment lagoons is characterized, below, for the following regulated parameters:

Influent Characterization

Parameter	Units	Monthly Average Value	Max./Min. Monthly Average Value
BOD_5	mg/L	5,779	8,294 max.
BOD_5	lbs/day	3,887	6,293 max.
Flow	MGD	0.076	0.109 max.
pH	Standard Units	5.11	4.23 min.
Temperature	ºC	15.3	21.1 max.
TSS	mg/L	969.5	1,595 max.
TSS	lbs/day	579.6	796.0 max.

A review of the above influent data indicates that the facility's flow has averaged 92% of its design criteria, and that the maximum flow reached 131% of the same design criteria of 0.083 MGD. However, both the organic and inorganic loadings were well below Tree Top, Inc.'s design criteria of the wastewater treatment plant.

Final Effluent

The effluent discharged from the Tree Top, Inc. activated sludge treatment plant to the Columbia River over the past twelve months, from May 1998 through April 1999, is characterized below for the following regulated parameters:

Final Effluent Characterization

Parameter	Units	Monthly Average Value	Max./Min. Monthly Average Value
BOD_5	mg/L	58.3	119 max.
BOD_5	lbs/day	38.7	106 max.
Dissolved Oxygen	mg/L	2.5	5.0 max.
pH	Standard Units	7.69	8.02 max.
Temperature	ºC	13.5	22.0 max.
TSS	mg/L	306	752 max.
TSS	lbs/day	198	505 max.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two types of limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The effluent limits in the proposed permit are necessary to meet the rules and regulations of the State and were evaluated on both a technology- and water quality-basis, as well as based in part on information received in the application. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in

regulation, or do not have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent or on-site processing, as described in 40 CFR 122.42(a), Tree Top, Inc. is required to notify the Department as soon as possible.

DESIGN CRITERIA

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed the following approved design criteria. The following design criteria for the Tree Top, Inc. wastewater treatment facility are taken from the *April 19, 1996 Operations and Maintenance Manual* and are applicable only to the raw wastewater entering the aerated lagoon (after screening):

Design Criteria of Pretreatment Aerated Lagoon

Parameter	Design Capacity
Monthly average flow (max. month):	0.083 MGD
BOD_5 influent loading:	5,600 lbs./day
TSS influent loading:	1,100 lbs./day

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Guidelines used to establish effluent limits for the Permittee's facility are detailed in 40 CFR Part 407, *Canned and Preserved Fruits and Vegetables Processing Point Source Category*. Limits are based on the "best practicable control technology currently available" (BPT) standard of performance for pollution control.

The table below contains calculated effluent limits for the proposed permit, which are based on 40 CFR 407.62. The 1-Day Maximum and 30-Day Maximum permit limits were calculated assuming 569 tons of raw apples will be processed each day during *the maximum month,* in accordance with 40 CFR 407.61(y). The Annual Average permit limits were calculated assuming 219 tons of raw apples will be processed each day during *a 12 month period,* in accordance with 40 CFR 407.61(x). Production figures were reported in the permit application.

Calculated Effluent Limits based on 40 CFR 407.62

Parameter	1-Day Maximum Limit (lbs/1000 lbs)	Calculated Maximum Daily Permit Limit (lbs/day)	30-Day Maximum Limit (lbs/1000 lbs)	Calculated Average Monthly Permit Limit (lbs/day)	Average Annual Limit (lbs/1000 lbs)	Calculated Average Annual Permit Limit (lbs/day)
BOD_5	1.86	2,117	1.13	1,286	0.80	351
TSS	3.34	3,801	2.34	2,663	1.48	649

Each of the calculated BOD_5 limits are substantially greater than the corresponding limits in the previous permit; therefore, the limits in the previous permit will be used in the proposed permit. Federal regulations prohibit reissuance of a permit with less stringent effluent limits than the previous permit (40 CFR 122.44(l)). Similarly, although the Federal effluent guidelines detail technology-based pH limits of between 6 and 9.5 standard units, the proposed permit will retain the limits from the previous permit of between 6 and 9. The calculated TSS limits are identical to those in the previous permit and are retained in the proposed permit.

Future permits may impose more stringent performance-based limitations on the facility. Federal effluent guidelines for this category of discharger were established in 1974 and, on the basis of the performance of the Permittee's wastewater treatment system, are clearly outdated. Federal and State regulations make provision to incorporate performance-based limits to implement the intent of the Federal Clean Water Act. The intent of the Clean Water Act is to reduce pollutant loadings to waterways, e. g., the National Pollutant Discharge *Elimination* System. Furthermore, the Department may find it necessary to impose performance-based effluent limits in the future as more information is gathered about the water quality of the affected segment of the Columbia River.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of the State's surface waters, the Federal Clean Water Act declared that one of its national goals is that the discharge of pollutants into navigable waters be eliminated (Section 304(b)).

Antidegradation

The State's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this permit should not cause a loss of beneficial uses.

Mixing Zones

The Water Quality Standards allow the Department to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic"

mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving AKART and that are in accordance with the other applicable mixing zone requirements of WAC 173-201A-100.

Low water flow at this location in the Columbia River is approximately 51,557 cfs, while the Tree Top, Inc. wastewater treatment plant has a design flow of 0.083 MGD (0.128 cfs). This represents conservative dilution factors of 1,700 (chronic) and 286 (acute), when determined in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC. However, a mixing zone is not authorized because the Permittee's discharge consistently complies with effluent limits at end of pipe.

Description of the Receiving Water

The facility discharges to the Columbia River which is designated as a Class A receiving water in the vicinity of the outfall. There are several other nearby large point source outfalls: Rocky Reach Dam Wastewater Treatment Plant at River Mile 474.9, The Chinet Company at River Mile 470.3, Naumes Processing at River Mile 470.2, the City of Wenatchee Stormwater Sewer (various Fruit Packing facilities) at River Mile 468.0, the City of Wenatchee POTW at River Mile 466.6, and the Douglas County Sewer District #1 (East Wenatchee) POTW at River Mile 465.7.

Characteristic uses of this segment of the Columbia River (WA-CR-1040) include the following:

> water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

The segment of the Columbia River is currently on the Department’s 303(d) list for exceedances of the State’s surface water standards for only the specific parameter of total dissolved gas. The Department has determined that no significant receiving water problems will result from the discharge if the effluent limits contained in the proposed permit are not exceeded.

Surface Water Quality Criteria

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms:	100 organisms/100 mL maximum geometric mean
Dissolved Oxygen:	8 mg/L minimum
Temperature:	20 degrees Celsius maximum (special condition)
pH:	6.0 to 9.0 standard units
Turbidity:	less than 5 NTU above background
Toxics:	No toxics in toxic amounts

Consideration of Surface Water Quality-Based Limits for Numerical Criteria

BOD_5 – There are no established water quality criteria for BOD_5; the discharge of oxygen-demanding effluent constituents is regulated by the criterion of 8 mg/L of oxygen at the edge of the mixing zone. Therefore, the technology-based limitations will be protective of the dissolved oxygen in the receiving water and will be used in this permit.

TSS – Total Suspended Solids are not regulated by Surface Water Quality Standards. Therefore, the application of 40 CFR Part 407 technology-based limitations in this permit is warranted to meet EPA requirements.

pH – The water quality-based limitations are equivalent to the previous permit and have been consistently met by Tree Top, Inc.; therefore, the water quality-based limitations of not less than 6 and not more than 9 will be continued in this permit.

Temperature – The average temperature of the proposed discharge is well below the water quality criteria. Therefore, no temperature limitations are required in this permit.

Toxic Pollutants – Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Surface Water Quality Standards or from having surface water quality-based effluent limits.

The Department has not been able to determine if there is a reasonable potential for toxic chemical discharges from the Tree Top, Inc. facility to exceed the State's surface water quality standards. This is due primarily to the fact that there does not already exist a sufficient database

of toxic chemical analyses. The proposed permit will require additional effluent analyses for the parameters of alkalinity, ammonia, hardness and priority pollutants, so that an adequate reasonable potential determination can be conducted at permit renewal. Therefore, the proposed permit will not contain any effluent limits for toxics.

Whole Effluent Toxicity

The State's Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no WET testing is required in the proposed permit. The Department may, however, require WET testing in the future if it receives information that toxicity may be present in this effluent.

Human Health

The State's water quality standards now include 91 numerical health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the State by the EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The Department has determined that Tree Top, Inc.'s discharge is unlikely to contain chemicals regulated for human health. The discharge will be re-evaluated for impacts to human health at the next permit reissuance.

Sediment Quality

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect marine aquatic biota and human health, but not for freshwater aquatic environments. When such standards become promulgated, Tree Top, Inc. will be required to comply with the applicable regulations.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

Tree Top, Inc. has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF PROPOSED AND PREVIOUS EFFLUENT LIMITS

		Previous Limits			Proposed Limits		
Parameter	**Units**	**Maximum Daily**	**Average Monthly**	**Average Yearly**	**Maximum Daily**	**Average Monthly**	**Average Yearly**
BOD_5	lbs/day	1,239	753	286	2,117	1,286	351
pH	Standard Units	Shall not be outside the range of 6.0 to 9.0			Shall not be outside the range of 6.0 to 9.0		
TSS	lbs/day	3,801	2,663	568	3,801	2,663	649

Proposed BOD_5 and TSS limits were calculated utilizing the same effluent guidelines as the previous permit; differences in the values are due to an increase in production.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. Monitoring for priority pollutants is being required to further characterize the effluent. These pollutant(s) could have a significant impact on the quality of the surface water. Additionally, monitoring for TKN is being required due to Tree Top, Inc.'s permit application stipulating that those pollutants are believed to be present in the effluent.

The monitoring schedule is detailed in the permit under Special Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.* The laboratory at Tree Top, Inc. is only accredited for general chemistry (C1).

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The requirements of Special Condition S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, Tree Top, Inc. may generate wastewater which is not characterized in its permit application because it is not a routine discharge and was not anticipated at the time of application submission. These are typically clean waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems, but may be contaminated with pollutants. The proposed permit contains an authorization for non-routine and unanticipated discharges and requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, the Department may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be treated in its wastewater treatment process, or require the water to be reused.

SPILL PLAN

The Department has determined that Tree Top, Inc. stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require Tree Top, Inc. to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

Tree Top, Inc. has developed a plan for preventing the accidental release of pollutants to State waters and for minimizing damages if such a spill occurs. The plan was received by the Department on May 21, 1996. The plan is incorporated within the Operations and Maintenance Manual as Appendix B. The plan should be reviewed annually and, in the event significant changes occur in the onsite handling practices or storage of chemicals, or if the quantities or types of chemicals stored change, this permit requires Tree Top, Inc. to update its Spill Plan and submit the update to the Department.

SOLID WASTE PLAN

The Department has determined that Tree Top, Inc. has a potential to cause pollution of the waters of the State from leachate of solid waste.

This permit requires, under the authority of RCW 90.48.080, that Tree Top, Inc. update its Solid Waste Plan in the event solid waste handling practices change, or the amount or disposition of

waste significantly changes. The plan must be submitted to the Department and to the local permitting agency for approval, if required by local regulation.

OPERATION AND MAINTENANCE MANUAL

In accordance with State and Federal regulations, Tree Top, Inc. is required to take all reasonable steps to properly operate and maintain its wastewater treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). The Department received an Operation and Maintenance (O&M) Manual on May 21, 1996. In the event the Permittee makes physical or operational modifications to the wastewater treatment system, or if wastewater monitoring systems or procedures in place to assure compliance with permit conditions are modified, the Permittee must submit an Updated O&M Manual to the Department for review. Furthermore, in the event the Permittee significantly changes rates of production, the manual should be reviewed and updates to the manual submitted to the Department.

GENERAL CONDITIONS

General Conditions are based directly on State and Federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify the proposed permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify the proposed permit as a result of new or amended State or Federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

The proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State. The Department proposes that the proposed permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A -- PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The proposed permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 30, and August 6, 1999 in the Wenatchee World to inform the public that an application had been submitted and to invite comment on the reissuance of the proposed permit.

The Department published a Public Notice of Draft (PNOD) on January 28, 2000 in the Wenatchee World to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to: Permit Data Systems Manager, Department of Ecology, Central Regional Office, 15 West Yakima Avenue, Suite 200, Yakima, Washington 98902.

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in the proposed permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of the proposed permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the proposed permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in the proposed permit.

Further information may be obtained from the Department by telephone, 509/575-2821 or by writing to the address listed above.

The proposed permit and this fact sheet were written by Jim LaSpina.

APPENDIX B -- GLOSSARY

Acute Toxicity -- The lethal effect of a pollutant on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART -- An acronym for "all known, available, and reasonable methods of prevention, treatment and control".

Ambient Water Quality -- The existing environmental condition of the water in a receiving water body upstream or upgradient of the permitted discharge.

Ammonia -- Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation -- The highest allowable average daily discharge of a pollutant obtained during a calendar month's time.

Best Management Practices (BMPs) -- Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Biochemical Oxygen Demand (BOD_5) -- Determining the BOD_5 of an effluent is an indirect way of measuring the quantity of organic pollution present that is available for bacterial degradation. BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged to the water. Although BOD_5 is not a specific compound, it is defined as a conventional pollutant under the Federal Clean Water Act. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment.

Bypass -- The intentional diversion of waste streams from any portion of treatment and/or facilities.

Chlorine -- Chlorine is often used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity -- The destructive effect of a pollutant on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity is measured by changes in survival, reproduction or growth rates, or other parameters sensitive to the toxic effects of pollutants.

Clean Water Act (CWA) -- The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of wastewater discharge permit and/or with applicable statutes and regulations.

Compliance Inspection - With Sampling -- A site visit to accomplish the same purpose of a *Compliance Inspection - Without Sampling* and as a minimum, sampling and analysis for all parameters with limits contained in the facility's wastewater discharge permit. For municipal facilities, the site visit typically ascertains compliance with permit limits and with the applicable minimum percent removal requirements. Additional sampling may also be conducted.

Composite Sample -- A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. It may be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity -- Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring – Uninterrupted, unless otherwise noted in the applicant's wastewater discharge permit.

Critical Condition -- The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, and thereby, its ability to dilute effluent is reduced.

Dilution Factor -- A measure of the amount of mixing of effluent and receiving water that occurs at the acute and chronic boundaries of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report -- A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria -- Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans, and are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of warm-blooded animal feces.

Grab Sample -- A single discrete sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater -- Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term also includes contaminated storm water and leachate from solid waste facilities.

Major Facility -- A facility discharging to surface water with an EPA rating score of >80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation -- The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL) -- The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility -- A facility discharging to surface water with an EPA rating score of <80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone -- An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's wastewater discharge permit and follows procedures outlined in State regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES) -- The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue such permits. NPDES permits issued by the State's permit writers are actually joint NPDES/State wastewater discharge permits issued under both State and Federal laws.

pH -- The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL) -- A calculated value typically estimated at five times the MDL.

Responsible Corporate Officer -- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit -- A numerical limit concerning an effluent parameter that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS) -- TSS is the particulate material pollutants in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation and deposition. Apart from any toxic effects attributable to leachable substances, TSS may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, TSS can screen out light and can promote and maintain noxious conditions through oxygen depletion.

State Waters -- Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, wetlands and all other surface waters and watercourses within the jurisdiction of the State.

Stormwater -- That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, ditches, pipes, and other features of a storm water drainage system into a defined surface water body, either man-made or natural, or into a constructed infiltration facility.

Upset -- An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit -- A numerical limit concerning an effluent parameter that is intended to prevent exceedance of its respective water quality criterion after being discharged into a receiving water.

APPENDIX C -- RESPONSE TO COMMENTS

The following paraphrased comment was received by the Department, from the Permittee, about the proposed permit and fact sheet. The comment is based on the Public Review version of the permit, which contained the design criteria for the facility's onsite wastewater treatment facility as Special Condition S5.

Comment: Are the design criteria in the O&M Manual enforceable as influent limits? If so, we're going to be frequently out of compliance. The criteria in the O&M Manual were quite conservative, and the plant has handled larger loads without problems. Effluent limits should be the focus of the permit; influent loadings are irrelevant as long as effluent quality is acceptable.

Response: Design criteria were included in the draft permit because the facility has an engineered wastewater treatment system, and it is in the best interests of the environment that the system be operated in accordance with loadings that reflect standard engineering practices. If the design criteria in the O&M Manual do not reflect the treatment capacity of the wastewater treatment system, then the Permittee needs to formally revise the system's design criteria, which the Permittee has said will be evaluated in the near future. In the context of this permit, the design criteria were ultimately removed from the final version of the permit because the permit writer could not find any documentation in the Department's files that the design criteria had ever been reviewed and approved by the Department.